Analysis of nustrip Files - 1

Purpose:

1. Get another estimate of visual scan efficiency
2. Estimate track finding efficiency
3. Check for interactions where there shouldn't be any

Method :

Use tracking software version 2005 instead of version 1998 to find interactions with at least one final track (DC). Require that at least one track have extrapolated position @$z = 90$ cm : $| u | < 25$ cm OR $| v | < 25$ cm.

Then scan visually the tagged events, discarding events that are clearly not interactions or not close to fiducial volume (in u or v)

Data Set

- On fnbblx1 /data3/strip   there are 93 `*.nustrip` files
- A large fraction of Period 1 and 2
- Would have preferred raw data but *c'est la vie (mort)*

On mass storage (Enstore) there are approximately 212 more `nustrip` files, with ~160 files not in set on fnbblx1. We will need to install the Enstore product in order to transfer these files.

In addition to the final track strip, I have attempted a vertex strip, but it is not selective enough at this time.

Results -

See accompanying write up for details

Number of events in all files   34180
Number of events ($\geq$ 1 trk)   1645
Number passing visual scan   116
Number of interaction (fid. vol.)   72

Intersection with '959' list   64
Intersection with '870' list   61
Intersection with '515' located list 50

NOT in '959' list   8
NOT in '870' list   11

In '515' ONLY   31
In new strip ONLY   11

Visual Scan Efficiency

Assume no bias and small correlations:

$\epsilon \cong$ (potentially '515' list)/(potentially '515'+11 new) = 50/60

$= \ 0.82 \pm 0.16$

Compare to result from multiple scan of data (May 2000)
$$\epsilon = 0.83 \pm 0.06$$

Or Reinhard's analysis of μCC events (Aug 1999)
$$\epsilon = 0.65$$

Analyzing files from Enstore will approximately halve the statistical error, giving a good estimate (pending systematic concerns)

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